



Global wine supply chain trends

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Abstract: *The wine market is one of the most dynamic and competitive markets in the world. With the advent of new technologies and changes in consumer habits, companies operating in this segment must make significant efforts to maintain their positions and increase their profits. One of the key success factors of the wine business is an efficient supply chain, which can be improved through modernization. Modernization of the wine supply chain can be accomplished by using the latest technologies and improving management processes. One technology that can be used to improve the wine supply chain is Internet technology. For example, wine companies can use online marketplaces to increase their customer base and increase the effectiveness of selling their products. In addition, Internet technologies can be used to improve inventory management and logistics processes. Another technology that can be used to improve the wine supply chain is automation. For example, wine companies can use automated quality control systems to ensure the high quality of their wines. In addition, automated systems can be used to optimize production and logistics processes. The supply chain in the wine market consists of several stages, from the cultivation of grapes to their processing into wine and further distribution on the market. With the growing demand for wine and increased competition, companies operating in the wine market must take steps to modernize their supply chains to ensure an efficient and sustainable supply of wine from cultivation to sale.*

Key words: *wine, manufacture, technology, wine industry, supply of wine, supply chain, new technology.*

Main material

One of the main problems faced by companies in the wine market is the difficulty of interacting with grape suppliers. To ensure the quality of the wine, it is necessary that the grapes are grown on certain types of soil and using appropriate cultivation methods. To meet these requirements, companies can engage grape suppliers to ensure that grapes are grown using certain methods and technologies. However, in order to achieve this goal, it is necessary to ensure constant control over the quality of grapes and careful planning of the harvest.

Another problem is the efficiency of grape and wine transportation. This can be especially difficult for companies that work with grapes from distant regions. One of the solutions to ensure efficient transportation is the use of new technologies for packing and storing grapes and wine.

Wine is one of the oldest and most common beverages in the world, and its production and supply has a long history. However, as in any industry, over time the wine supply chain needs to be modernized to ensure efficiency, quality and competitiveness.

One of the key elements of the wine supply chain is production. Modern technologies and innovations, such as automation of the production process, quality control and pest protection, can significantly improve production processes and ensure wine quality.

Next, in the wine supply chain, transportation and storage are of great importance. Modern technologies such as humidity and temperature control are available on the market today, which can improve wine storage and increase its shelf life. Also, efficient transportation can help reduce delivery times and ensure safe delivery of wine to customers.

In addition, it is important to ensure an efficient wine market. Modern technologies can help in providing an efficient sales market, such as digital platforms and online trading platforms, which can help manufacturers increase their visibility and attract new customers. Also, marketing strategies such as product differentiation and the use of social media can provide additional opportunities to increase wine sales.

The wine market is one of the most dynamic and competitive branches of the food industry. The number of wine producers competing for consumers in various markets around the world is growing every year. In such conditions, the efficiency of the supply chain becomes a key success factor for every manufacturer.

Modernization of the supply chain is a necessary step to ensure the stability and competitiveness of the wine business. The main goal of modernization is to ensure product quality and reduce production and supply costs. Reducing costs will help maintain competitiveness in the wine market, and increasing product quality will attract new consumers and increase the loyalty of existing ones.

Modernization of the supply chain in the wine market can be carried out using various technologies and methods. One of the most important is the use of modern information technologies, such as supply chain management systems (Supply Chain Management - SCM). These systems allow you to plan and manage supplies and production, track goods at all stages of the supply chain and reduce losses.

Also, an important element of modernization is the use of modern methods of grape growing and wine production, such as biological grape growing and wine production without the addition of chemicals.

The wine market is one of the most developed industries in many countries of the world. The wine supply chain consists of numerous stages, from the cultivation of grapes to the sale of the finished wine on the market. This chain has its own characteristics that require modernization and improvement in order to ensure the quality of the wine and reduce the costs of its production.

One of the main stages of the supply chain is the cultivation of grapes. Modern technologies make it possible to improve the quality of grapes and increase yield by using various fertilizers, drip irrigation systems and other innovative methods. In addition, the use of sensors and other electronic devices helps to control the level of humidity, temperature and other factors that affect the growth of grapes.

After harvesting the grapes comes the stage of wine production, which also needs modernization. Modern technologies make it possible to automate wine production processes and reduce the influence of the human factor on wine quality. The use of special equipment allows you to control the temperature and other parameters during wine fermentation, which improves its quality and extends the shelf life.

The wine market is an important sector of the agricultural industry, which has a significant impact on the economy of producing countries. The wine supply chain consists of many stages - from the cultivation of grapes to the sale of finished products. Recently, this chain has undergone significant changes and challenges associated with increased competition and changes in consumer demand. In this article, we will look at the most important trends and challenges affecting the development of supply chains in the wine market, as well as possible ways to solve them.

Trends and challenges

One of the most important trends in the wine market is increasing competition. Competition between wine producers in Ukraine and abroad is growing. This presents manufacturers with new challenges - they must ensure high product quality and maintain high production standards. In addition, there are more and more new players in the wine market, such as local producers and small family winemakers, who offer unique wines and specialized brands.

Another important challenge is the change in consumer demand. Consumers are becoming increasingly demanding regarding the quality and taste characteristics of wine. This puts producers in front of the challenge of ensuring the quality of wine that meets the expectations of consumers.

The supply chain is an important component of the Vinnytsia industry. To ensure the sustainable development of the wine industry, it is necessary to constantly modernize and improve

supply chains. In this article, we will consider some innovative approaches to modernizing supply chains in the wine market.

One of the first steps that can be taken to modernize wine supply chains is to adopt the latest technologies. For example, automated control systems that include electronic production control systems can help wine producers to control production processes and reduce waste more effectively.

In addition, the use of modern technologies can improve the quality of wine. For example, with the help of special sensors, it is possible to control the temperature and humidity in wine storage rooms, which will allow wine to be stored in optimal conditions and reduce losses from scrapping.

Another innovative approach is the implementation of the concept of "smart" supply chains. This means that every stage of the supply chain must be connected to the Internet of Things (IoT) network, which will allow wine producers to receive advanced information about each stage of the wine production and supply process.

The supply chain in the wine market consists of various stages, including the cultivation of grapes, their harvesting and wine processing, their storage and transportation, and finally their sale and distribution. However, with the advent of new technologies and growing demand for wine, this supply chain needs to be modernized to meet the demands of today's market.

One of the challenges facing the wine market is climate change. Unpredictable weather conditions can significantly affect the cultivation of grapes and the quality of wine. Therefore, wine companies must be prepared for climate change and use new technologies to ensure stable wine quality.

Another challenge facing the wine market is changing consumer habits. Today's consumers are more interested in ecologically clean wine and wines using organic ingredients. In addition, consumers are increasingly looking for wines with reduced or no alcohol. Therefore, companies must be ready for changes in consumer habits and offer new products that meet the requirements of the modern market.

The wine supply chain is a complex process that includes many stages, starting from the cultivation of grapes and ending with the sale of finished products. In today's world, the wine market is changing very quickly, so modernizing the supply chain is very important for companies that want to be competitive. In this article, we will look at some of the main directions for modernizing the supply chain in the wine market.

Use of technologies

Today's technology can be used to improve the entire wine supply chain, from growing grapes to selling the product. For example, drones can be used to locate vineyards to help farmers grow grapes at optimal levels. Modern monitoring systems can help producers control wine storage conditions and maintain optimal temperature and humidity. Data analysis technologies can help producers understand what factors affect wine quality and how to improve it.

Improvement of logistics processes

One of the key elements of the wine supply chain is logistics. Improving logistics processes can help reduce the cost of transporting and storing wine. Today, there are various smart systems that help producers reduce the time of delivery and storage of wine, which allows for a faster and more efficient response.

In the world, winemaking is considered an important industry that plays an important role in the economy of many countries. The wine industry was one of the first to use the supply chain to improve productivity and product quality. However, with the development of technology and increased competition in the wine market, the need to modernize supply chains is increasing.

One of the most important components of the wine supply chain is growing grapes. Modern methods of growing grapes, including the use of modern technologies and highly effective fertilizers, can significantly improve the quality of wine. In addition, the use of automated temperature and humidity control systems in cloud storage can store wines in optimal conditions, which increases their quality and shelf life.

The next step in the supply chain is wine production. Modern technologies make it possible to use more efficient production methods and control the production process using automated systems. Also, the use of modern filtration methods can ensure the purity of the wine and reduce product losses.

The next step in the chain is wine storage and transportation. Modern technologies make it possible to control the temperature and humidity during the transportation of wine, which allows you to preserve its quality and duration.

Wine is one of the most popular and sought-after drinks in the world. However, to ensure wine quality and satisfy consumer demand, efficient logistics and modernization of supply chains in the wine market are needed.

One of the main problems facing the wine market is the complexity of logistics, since grapes are grown in certain regions, but consumers can be located in any corner of the world. Therefore, it is important to have an efficient logistics system to ensure the delivery of wine to the final consumer in a fresh and high-quality condition.

One solution to this problem is to modernize the supply chain using Internet of Things (IoT) and blockchain technologies. IoT can help track the movement of wine from the vineyard to the end consumer with sensors that allow monitoring of temperature, humidity, and other parameters. Thus, it is possible to control the storage and transportation conditions of wine, reducing losses and ensuring product quality.

Blockchain can help trace the origin of wine and ensure its authenticity, which is important to combat counterfeiting and fraud in the wine market. Each bottle of wine can be marked with a unique identifier that tracks all stages of its production, transportation, and storage.

The wine industry has become one of the key branches of agriculture in the world. The wine supply chain consists of many stages, from growing grapes to processing them into wine, storing them, transporting them, and selling them. If previously winemaking was associated with regional producers and small vineyards, today it has become a global industry with significant investments in science, technology, and marketing.

Modernization of supply chains in the wine market is a key factor in the development of the industry. The use of modern technologies in the production, transportation and storage of wine allows to increase the quality of products and reduce costs.

One of the important stages of the supply chain is the cultivation of grapes. Modern technologies allow controlling climatic conditions and regulating irrigation, which has a positive effect on the quality of grapes. The use of modern machines for harvesting grapes allows harvesting quickly and efficiently.

After harvesting grapes, they must be processed into wine. Modern technologies allow controlling all stages of grape processing, which ensures stable product quality. Automation of the process of grape processing allows to increase the productivity and efficiency of production.

Transport and storage of wine is an important step in the supply chain.

The wine market is one of the most dynamic and changing markets in the world. With the advent of new technologies and the growing awareness of consumers about product quality and origin, winemakers are forced to review their supply chains and implement new methods and technologies to improve product quality and increase production efficiency.

One of the main challenges for winemakers is the lack of resources. For example, vineyards may be adversely affected by climate change, resulting in lower yields. Also, the lack of specialists in the field of wine production and supply chain management can lead to reduced productivity and poor quality of wine.

To solve these problems, winemakers use different technologies and methods. One of them is the use of modern supply chain management systems (Supply Chain Management - SCM). SCM allows winemakers to efficiently manage wine production from grape picking to bottling and ensures monitoring and control of wine quality at every stage of production.

In addition, winemakers use modern technologies to increase productivity and improve wine quality. For example, automated systems for picking grapes, using different types of yeast for fermentation, and storing wine in special barrels made of different types of wood.

The supply chain is a key factor in the production and sale of wine. It starts with the farmers who grow the grapes and ends in the shops where customers can buy a bottle of wine. However, due to the increasing competition in the wine market, it is necessary to constantly modernize the supply chain to be more efficient and ensure the quality of the wine from start to finish.

The first step to modernizing the supply chain is the introduction of technology into wine production. For example, using a GPS system to monitor the quality of grapes and optimize the grape harvesting process will help improve the quality of raw materials and reduce losses during harvesting.

Further, efficient wine storage and transportation are key factors in maintaining wine quality. The use of the latest technologies in storage and transportation will help ensure optimal storage and transportation conditions for wine, reduce losses, and improve quality.

In addition, modernizing the supply chain can include the use of e-commerce to sell wine. E-commerce allows producers and distributors to increase the number of buyers and ensure fast delivery of wine.

In addition to technology, modernizing the supply chain can also involve improving cooperation between the various players in the wine market.

Modernization of supply chains is one of the most important strategies for increasing the efficiency and competitiveness of enterprises in the wine market. Due to the growing demand for wine and increasing competition between producers, it is necessary to constantly improve the processes of production and supply of the product.

One of the main problems in the supply chain in the wine market is insufficient automation and digitization of processes. Many wine producers still use manual labor and traditional production methods, which increases the time and cost of production and delivery of the product.

One of the important steps towards modernizing the wine supply chain is the use of modern technologies in the production and supply of the product. For example, the use of grape level

monitoring and wine quality control can ensure quality stability and reduce product losses. Also, the use of electronic supply chain management systems can increase efficiency and reduce costs.

The second important step is to improve the interaction between all players in the wine supply chain, such as producers, distributors, and retailers. Optimization of the supply chain can be achieved using information technology and electronic data exchange, which reduces the time for document processing and provides quick access to information.

A supply chain is a sequence of steps from the supplier to the final consumer. In the wine market, the supply chain aims to ensure a quality product for the consumer, which includes grape growing, winemaking, storage, and transportation.

Since the wine market is very competitive, it is necessary to constantly improve the supply chain to ensure efficiency and economy. Below we consider some of the new trends and challenges affecting the modernization of supply chains in the wine market.

Expansion of the world market

Growing demand for wine from countries that were not previously traditional wine producers, such as China, India, South America, is creating new challenges for supply chains. New markets require new technologies and innovations to ensure high product quality and ensure fast and efficient transportation.

Growing demand for organic wine

The demand for organic wine is increasing due to an increase in the number of consumers who pay attention to a healthy lifestyle and environmentally friendly products. This requires greater control over the production and storage of wine to ensure high quality and compliance with standards.

The wine business is an industry that progresses and develops every year. However, wine companies in Ukraine are experiencing significant problems with the supply chain, which can significantly affect the quality of the product and the profitability of the enterprise. Therefore, the modernization of supply chains in the wine market is extremely important.

Modernization of the supply chain includes improving the processes of procurement, transportation, storage, and sale of wine. The first step in this process is to assess the current state of the supply chain and identify the main challenges. For example, the problem may be insufficient provision of high-quality transport logistics, insufficient quality control at each stage of production and supply, the complexity of information exchange between participants in the supply chain.

Modern technologies and approaches can be used to solve these problems. For example, the use of quality control systems that ensure constant monitoring of wine quality at every stage of production and delivery. This allows you to quickly identify shortcomings and problems and take appropriate measures.

Also, the use of modern information technologies can significantly simplify the processes of interaction between the participants of the supply chain. The implementation of a supply chain management system can help reduce the time and costs of organizing the storage, transportation, and sale of wine.

The supply chain is an important element of any industry, including the wine market. Winemaking is a complex technological process that requires constant attention to detail to ensure the quality of the wine and its safety for consumers. However, with technological innovations and increasing competition in the market, modernizing the supply chains of the wine market is becoming a necessity.

One of the key benefits of modernizing the supply chain in the wine market is reducing the risk of wine contamination and improving product quality. Thanks to the latest technologies, winemakers can manage the wine production process and control the storage conditions. This allows you to reduce the amount of waste and eliminate the possibility of wine contamination during transportation.

A second benefit of supply chain modernization is increased efficiency and reduced costs. Modern technologies allow automating many processes that previously required a lot of manual work. For example, modern automatic quality control systems can detect manufacturing defects and errors at an early stage, allowing them to be corrected before they become serious. This reduces waste and lowers production costs.

A third benefit of modernizing the supply chain in the wine market is increased competitiveness. The supply chain is a critical component of any market, including the wine market. If the supply chain is not efficient and does not ensure the quality of the wine, this can lead to a decrease in the competitiveness of producers and the risk of losing customers. In this regard, modernization of supply chains becomes an important task for wine producers.

One of the key components of the modernization of supply chains in the wine market is the application of production technologies. New technologies make it possible to reduce wine losses and preserve its quality throughout the entire supply chain. For example, automatic temperature control systems can help ensure optimal wine storage conditions. Manufacturing technologies can also help reduce production time and increase production efficiency.

Another component of modernizing supply chains in the wine market is the use of digital technologies. For example, manufacturers can use production management and logistics systems to improve the coordination of processes throughout the supply chain. This will help provide more accurate demand forecasting, improve planning and reduce delivery times.

Another important component of modernizing supply chains in the wine market is improving product quality. The wine supply chain is a complex process that includes many different stages - from the cultivation of grapes to their processing, storage, transportation and distribution of wine to the market. Given the rapid pace of change and increasing competition, wine companies must constantly modernize their supply chains to remain competitive and ensure product quality.

One of the main trends taking place in the modern wine business is the growing attention to sustainability and environmental sustainability. This means that companies must pay attention to the impact of their activities on the environment, reduce waste and energy consumption, reduce emissions of harmful substances into the atmosphere and water resources.

Another important aspect of modernizing the wine supply chain is the use of the latest technologies. Tracking the condition of grapes, temperature control during processing, monitoring the quality of wine and its storage - all this is possible thanks to modern information technologies. In addition, the Internet and social media allow winemakers to interact with their customers, learn about their needs and alert them to new wines and promotions. The wine supply chain is a complex process that includes growing grapes, harvesting them, transporting them, producing wine and distributing it to the end consumer. Recently, the wine market has been modernizing supply chains to ensure product quality, increase production efficiency, and reduce costs.

One of the main trends in the wine market is the increased use of technology in all stages of the supply chain. Wine producers use a variety of technologies to increase production efficiency, control quality, and reduce product wastage. For example, automated production control systems allow precise control of temperature and humidity, which affects the quality of wine.

Another important trend is increasing attention to sustainable development and reducing the impact of wine production on the environment. Wine producers are beginning to use energy-efficient technologies and reduce emissions into the atmosphere. In addition, the number of wine producers using organic methods of grape growing and wine production is increasing.

Another important challenge for the wine supply chain is changing consumer demand.

Consumers are becoming more conscious and attentive to the quality and origin of the product. Modernization of supply chains is one of the most important tasks for the development of any market. The wine market is no exception. Today, the supply chain in the wine market is quite complex and long, and consists of several stages: growing grapes, their processing, packaging, storage and distribution. In addition, each of the stages requires ensuring the high quality of the product and compliance with the requirements of the law.

One of the main challenges for the supply chain in the wine market is to ensure the sustainability and uninterrupted supply of wine. Due to the growing demand for quality wine, producers must ensure stable product quality and expand their sales markets. For this, it is necessary to apply modern production and logistics technologies, which will increase efficiency and reduce the time of wine delivery to the consumer.

One of the solutions for modernizing the supply chain in the wine market is the use of Internet of Things (IoT) technologies. IoT can enable process automation and data collection from the entire supply chain. For example, sensors can monitor temperature and humidity in wine storage rooms, which will prevent wine damage due to adverse storage conditions. Also, IoT can be used to track product location and delivery status. The wine supply chain is a complex process consisting of many stages: from grape growing and wine production to distribution and sale to end consumers. Recently, there has been a trend in the wine market to modernize this supply chain in order to improve wine quality and optimize processes.

CONCLUSION

One of the main problems faced by wine producers is the deterioration of wine quality during transportation and storage. This can happen due to the insufficient technological base at various stages of the supply chain, as well as the lack of effective wine quality control systems. One of the solutions to this problem is the use of modern technologies to ensure stable temperature and humidity during wine transportation and storage.

Another problem is the inefficiency of logistics processes, which often lead to longer delivery times and higher transportation costs. To solve this problem, it is worth using modern systems of automated logistics management, which allow to reduce delivery time and optimize routes.

It is also important to ensure the quality of wine at the production stage. To do this, you can use modern temperature and humidity control technologies, as well as monitoring and control systems that allow you to maintain optimal conditions for wine production. The wine supply chain

is a complex and extensive process that includes many stages of wine production, distribution, and sale. Modernization of supply chains in the wine market can be a key factor in ensuring the stable and efficient operation of all players in the wine market.

One of the main challenges for the wine supply chain is to ensure product quality and manage costs. Modernization can help solve these problems by introducing new technologies and processes in production and logistics.

One of the first steps in the modernization of the wine supply chain is the automation of the production process. The use of modern technologies can significantly reduce labor costs, improve product quality and ensure a fast and efficient production process.

The next step is to improve the logistics and distribution process. The use of modern technologies in logistics and distribution can reduce delivery times and ensure effective inventory management. In addition, the use of modern marketing and sales methods can help increase sales and attract new customers.

One of the important stages of modernization of the wine supply chain is the implementation of a system for monitoring and analyzing product quality.

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